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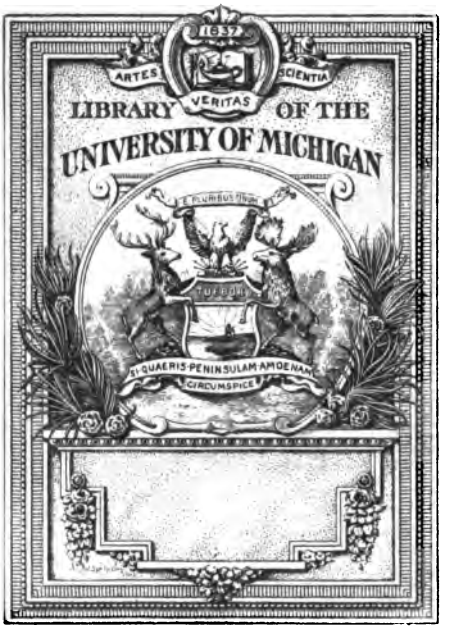
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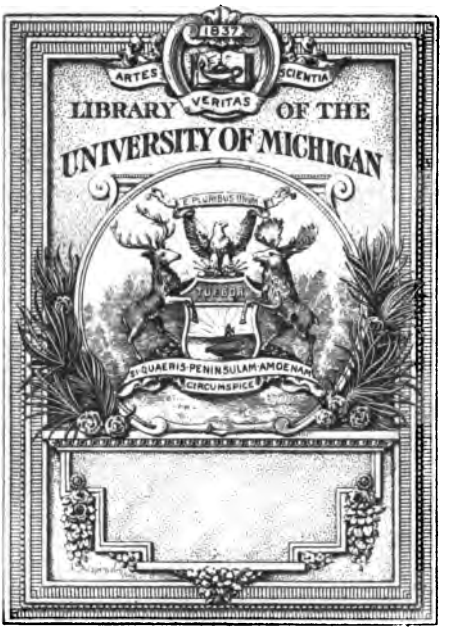
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CALIFORNIA

PRUNE INDUSTRY.

History and Importance of the Prune Industry, Methods of Cultivation, Varieties, Picking, Curing, Packing, and Production.

By B. M. LELONG,
Secretary of the State Board of Horticulture.

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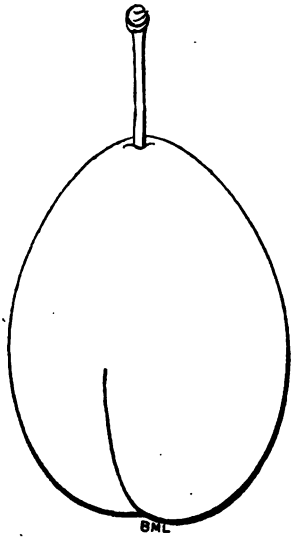

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CALIFORNIA PRUNE INDUSTRY.

By B. M. LELONG,

Secretary of the State Board of Horticulture, and ex officio Chief Horticultural Officer.

HISTORY AND IMPORTANCE OF THE PRUNE.

The name "prune" is derived from the Latin *prunum*, a plum, and in its generally accepted designation is applied to those special varieties of the plum family that possess exceptional curing qualities, of firm texture, easily dried whole in the sun, or artificially, without fermenting at the pit. These varieties form the prune of commerce, and it is of those that the present paper will treat, although in the matter of soil, climate, methods of cultivation, etc., there is little difference in the propagation of the various members of the plum family, and the treatment adapted to one is usually applicable to all.

According to Theophrastus, the prune was cultivated in Asia Minor in most remote ages. Pliny speaks of its cultivation by the Romans, and makes mention of eleven varieties proceeding from the domestic prune introduced into Italy by Caton, the ancient. It grew without cultivation in the environs of Damascus, and a very rustic and vigorous variety, known as the Black Damascus, is much used by the nurserymen of Europe as subject for grafting all other varieties. The introduction of the prune into France is attributed to the Crusaders. If tradition is correct, this valuable fruit was first cultivated in the southwest of France by the inmates of a convent near Clairac. In traveling from Aiguillon to Fumel, through the productive valley of the Lot, fertile plains are seen bordering the picturesque riversides, covered with plum trees, which furnish the famous prunes d'Ente and Robe de Sergent, which are exported to the remotest corner of the commercial world.

This valuable tree, which loves a temperate climate, does not confine itself to this special section of France, but is profitably cultivated wherever climatic and soil conditions are favorable to its growth, as is demonstrated by its extensive cultivation in the valley of the Loire, the departments of Garonne, Tarne, Dordogne, and Aveyron. The well known brand called Tours prunes comes from the orchards of the Loire.

INTRODUCTION INTO CALIFORNIA.

It is to France that California is indebted for this healthful and profitable fruit. Louis Pellier, a French sailor, who had visited many parts of the world, arrived in San Francisco in 1849, and went to work in the mines in Trinity County. He did not succeed well there, and finally removed to San José early in the fifties. Here he established a nursery. He soon after induced his brother Pierre, whom he had left in France, to join him in California, and the two brothers worked the nursery together until the spring of 1856, when Pierre returned to France in order

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to marry a girl to whom he was engaged. Combining business with matrimony, he secured a large number of cuttings of prunes, grapes, and other fruits, which he brought back with him on his return. His bride and his brother Jean accompanied him, and, together with the box of precious cuttings, they made the voyage successfully, crossing the isthmus, and arriving in San Francisco in December, 1856.

The prune cuttings were procured in the Ville Neuve d'Agen, from whence the common California prune derives its name of Petit Prune d'Agen. They were carefully packed in a box about sixteen inches square by four feet in length, which was lined with cloth, and every precaution was taken to insure the safe arrival of what has since proved the germ of one of the most important industries of California. Upon its arrival the shipment was at once transmitted to Louis Pellier at San José, and a number of plum roots were grafted to the newly arrived prunes. This started the first prune nursery on the Pacific Coast, which was located in the city of San José, on Devine Street, between Tarraine and Santa Teresa.

The importance of Pellier's experiment was not at first appreciated. A German nurseryman named B. Kamp procured some grafts from Pellier, and also worked for the introduction of the prune. He was one of the first to put out prune trees in orchard row. But comparatively little attention was paid to prune growing, as a specialty, for a quarter of a century after its introduction into the State. The superiority of California as a fruit-growing State, however, at last forced itself upon public attention, and, among other fruits, the prune was given a trial, and it soon proved its great capacity as a profitable crop, and to-day it ranks among the leading industries of the Golden State.

GROWTH OF THE INDUSTRY.

Probably the oldest orchard of any size in the State is the Bradley orchard, on Stevens' Creek road, about two miles out of San José. This was set out in 1870. The success of this led others to go into prune growing, and the O'Banion & Kent orchard, near Saratoga, was planted in 1878-9, and the Dr. Handy orchard of one hundred acres, at Saratoga, followed in 1880-81 ; in 1881 the Buxton orchard, also at Saratoga, was planted, and prune growing and curing on a large scale became a fixed fact.

From that time the growth of the industry has been phenomenal. The prune industry has been practically the growth of the past decade, for within that period the planting of orchards, their cultivation, and the proper care of their product, have grown into a system. In the prune center of Santa Clara County, which ten years since produced not a pound of this fruit, it is now exported by the carload. Above Los Gatos Mr. Morrell was then one of the heaviest producers, and his output was five to six tons per annum; he now packs from five to six carloads each season from the same orchard.

Santa Clara County was from the beginning the center of the prune industry, and here was demonstrated the fact that prune growing would pay; that no extraordinary care was required in cultivation or mysterious skill in preparation. As soon as these facts were demonstrated other counties took up the pursuit, until now the prune is found in all except the highest mountain counties in the State. In 1870 there were but 19,059 prune trees in the State, while the Assessors' reports for 1886, which are probably 25 per cent too low, give the number in the various counties that year at 1,077,841.

The Assessors' reports for 1891 show a very large increase in the past five years in those counties which have made returns.

A large portion of these trees, perhaps one half, are not yet in full bearing. It is estimated that when the trees now growing in Santa Clara County alone shall have matured the annual product will be over forty million pounds of dried fruit.

HABITAT OF THE PRUNE.

The prune is a very hardy tree, and will thrive in a wide range of climate and soil and at various elevations. Wherever the Green Gage plum will grow the prune can be grown. It will stand severe winter weather, and will grow where the thermometer touches zero. Its favorite habitat, however, is a temperate climate and a warm, generous soil. It can be grown in the Eastern States, but the short seasons there, the numerous pests, and the unfavorable conditions for drying which exist, prevent the East from ever entering the field as a competitor to California in the prune industry. Even in California, while the tree will grow in nearly all the counties, there are but few favored localities in which it appears at its best. In some sections of this State where the prune makes a thrifty growth and yields heavily, there is a lack of saccharine matter in the fruit that deprives it of its best qualities, and when dried a very inferior product is the result. In other localities large juicy fruit will be grown, which decreases heavily in drying. The prime requisites in the prune are solid, firm flesh, that will not ferment at the pit in drying, a rich, fruity flavor and bouquet, and a keeping quality that will stand the test of months or years without serious loss from shrinkage, and those sections which possess the peculiarities of soil and climate which insure these in their greatest perfection are the true prune sections. The drying quality of the prune varies very greatly owing to the varieties of soil in which it is grown. In some localities it will shrink in drying from four to one, while in others two and a half pounds of green fruit will make one pound of dried. The fruit will also vary in different places in thickness and toughness of skin.

The prune is a gross feeder, and wants for its best development a rich and heavy soil, with sufficient moisture to feed it. The foothills of Santa Clara County have long been regarded as especially favorable to the prune, but, as experiments in its growth have been made, other sections have been found that furnish all the required conditions, and while Santa Clara is still, and probably always will be, the center and most important section of this industry, it is not now the only prune county of the State. The most extensive single prune orchard in the State is now in the Salinas Valley, in San Luis Obispo County, on the eastern slope of the Coast Range, near the town of Templeton. In this orchard there are nearly three hundred acres of prunes in one body, containing ~~three hundred and twenty~~ thirty four thousand trees. Some very excellent prunes are produced in Los Angeles, Orange, San Bernardino, San Diego, Ventura, Alameda, Monterey, Napa, Sonoma, and in the counties of the San Joaquin and Sacramento Valleys, while especially good results have been reported from Tehama, Shasta, Humboldt, Sutter, and Yuba Counties. It is not improbable that in time the different localities of the State will discover certain lines in which each excels, and the production of specialties in that line will result, the fruit from each being known for its own peculiarities.

METHODS OF CULTIVATION.

SOIL AND STOCK.

The soil required for prunes depends largely upon the stock used, or rather, perhaps, the stock should be selected to suit the soil. A light, deep, sandy loam, not too moist, and well drained, is adapted to peach stock, which does well on the sedimentary deposits of the higher valleys. Such soils are warm and light, and experience has proved that peach stock will do better here than on the heavier, clayey lands of the bottoms.

In the heavier soils plum stock does better than peach, and the Myrobalan, or wild plum stock, is the favorite. It is hardy, forms a good union with its graft, and does not sucker as other plum stock will.

The almond stock is a favorite with many growers who have a rocky subsoil, as it does well in such land—even better than the peach.

The preparation of the soil depends largely upon its peculiarities. If heavy, it should be deeply plowed and subsoiled. If there is a hardpan subsoil, this should also be broken, which can be done with any good subsoil plow; in any event the ground should be plowed deep and well stirred up for ventilation. It is well, where practicable, to begin the preparation of the land for an orchard some time before the planting of it. It should be thoroughly and deeply plowed early in the fall, leaving the surface rough and exposed to the air during the winter. This facilitates the access of air to the lower layers and gives vitality to the soil. Following in the furrow with a subsoil plow is desirable, especially in the conversion of old grain lands into orchards, as it breaks up the old hardpan which has probably formed through years of shallow culture. The preparation may continue through the following summer, and, where practicable, hoed crops can be grown, or the land can be left to summer-fallow, care being taken to keep it thoroughly pulverized and free from weeds. If it is desirable to fertilize the land, manure can be applied in the winter, before the trees are planted. If this is not done then, the work should be left until the trees are planted, and the manure should be evenly spread over the surface during the winter, to be plowed under in the spring. Care should be taken to spread it evenly and not mass it around the young trees, unless it is to be applied as a mulch to prevent evaporation after spring cultivation.

If it is desired to plant the land immediately after breaking up, the work should be commenced as early in the fall as it is possible to do deep plowing, and the ground should be stirred to a depth of ten or twelve inches or more, if practicable, and should afterwards be thoroughly harrowed. If it is still early, cross-plow deeply and follow with a subsoil plow, working to a depth of fourteen inches or more. Harrow again thoroughly and the land is ready for the trees.

PLANTING THE ORCHARD.

In laying off the orchard it is desirable to have it symmetrical and to economize the land. A little thought and care displayed at the com-

mencement will save much annoyance in after years, and it is no greater task to have the orchard neat in appearance and symmetrical in outline than to have it in a haphazard condition. There are three objects to be considered in laying out the orchard: symmetry of appearance, economy of space, and facility for future care. Of course the first thing is to get the trees in straight rows, at equal distances apart, and every one thinks he can accomplish this. But there are various methods of disposing of the straight row, and these methods all have their advocates, and each one its advantages. The principal forms are the square, the quincunx, and the hexagonal or septuple. The methods most common in use are the square and the quincunx systems. The most generally adopted is the square system, as the orchard can be changed to quincunx after being planted, even after a number of years' growth.

PLANTING SYSTEMS.

In order that the most approved planting systems may be better understood, they are illustrated to show how the orchard is first laid out, and how the trees look after several years of growth.

The Square System.

ERRATA.

Read number of trees in square system 108, instead of 109.

Quincunx System.

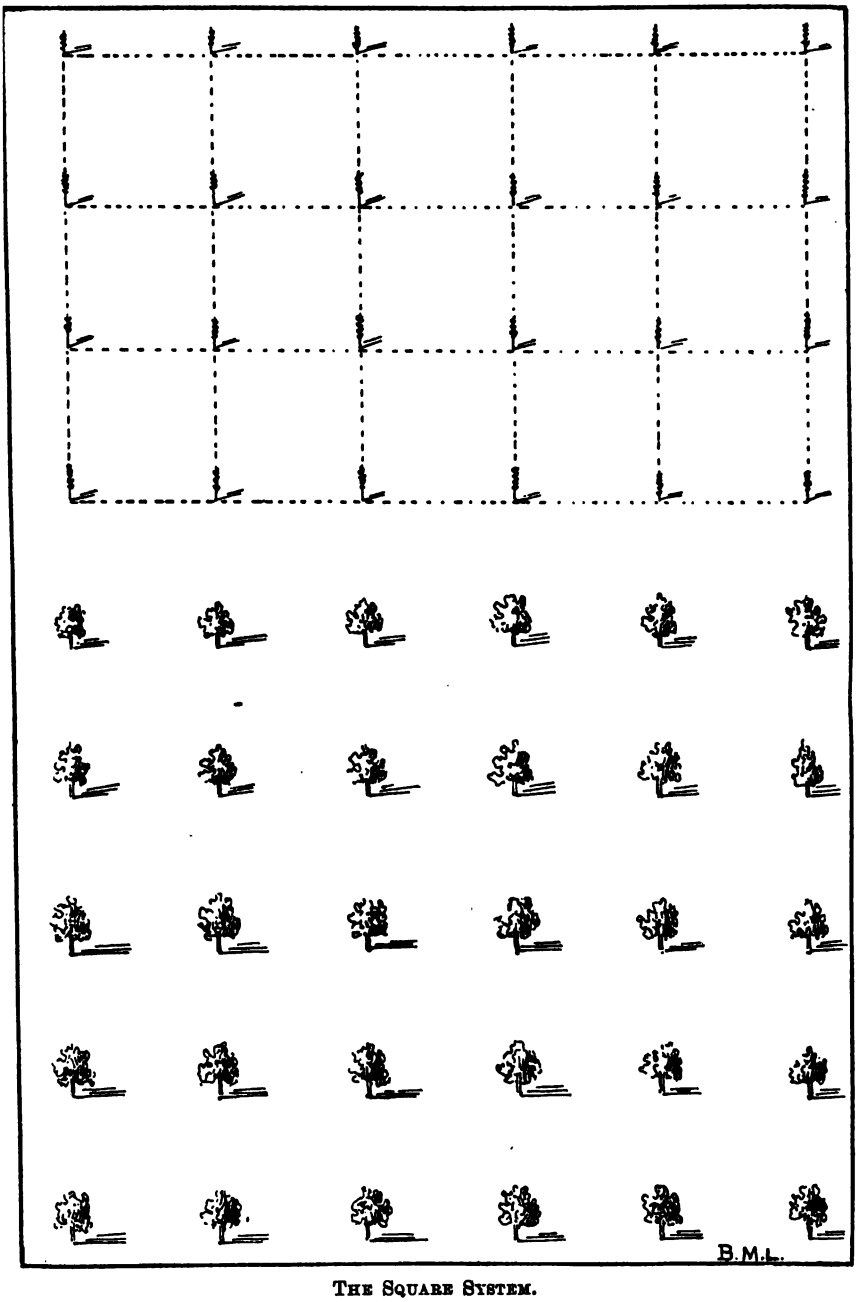
In this system the orchard is laid off in the same manner as for square planting, except that the number of rows are doubled and a tree planted in the center of every square. This method is chiefly used in planting with reference to a future removal of the center trees, which are generally dwarf, when those designed to be permanent shall have attained a considerable size, and the orchard then assumes the square plan. At twenty feet apart, one hundred and ninety-nine trees are planted to an acre by this method.

Hexagonal System.

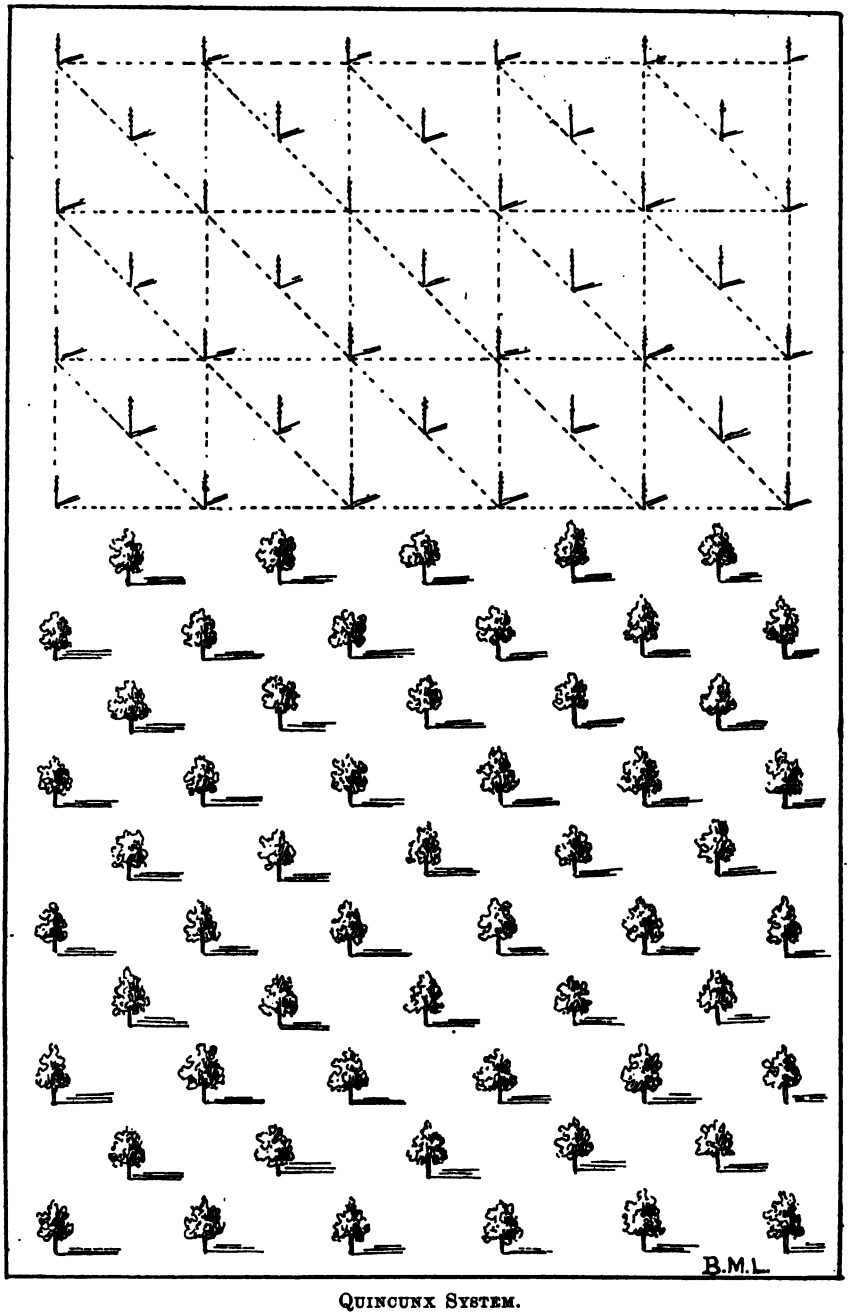
In this system the trees are equilateral—equally distant from each other—and more completely fill the space than any other system can. Six trees form a hexagon and inclose a seventh. The lines in the figure (page 10) indicate the method of laying out the orchard. By this method, at twenty feet apart, one hundred and twenty-six trees are planted to an acre.

Triangular, or Alternate System.

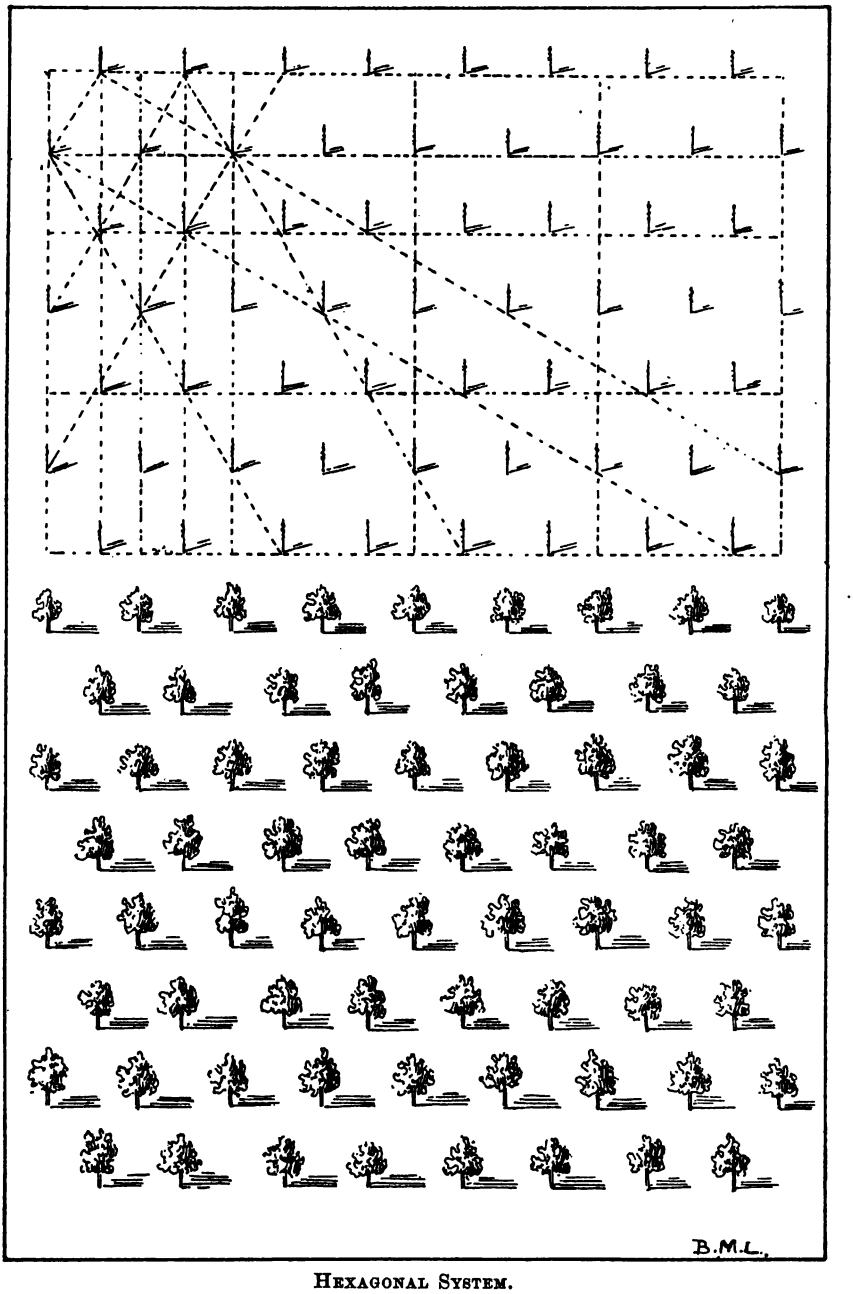
In laying out an orchard by this system, the lines are run forming a square, as in the square system; a line is then run diagonally across, and a tree planted alternately, forming a triangle. The advantage in this system is that the trees are given more space, and can be planted closer together without crowding.



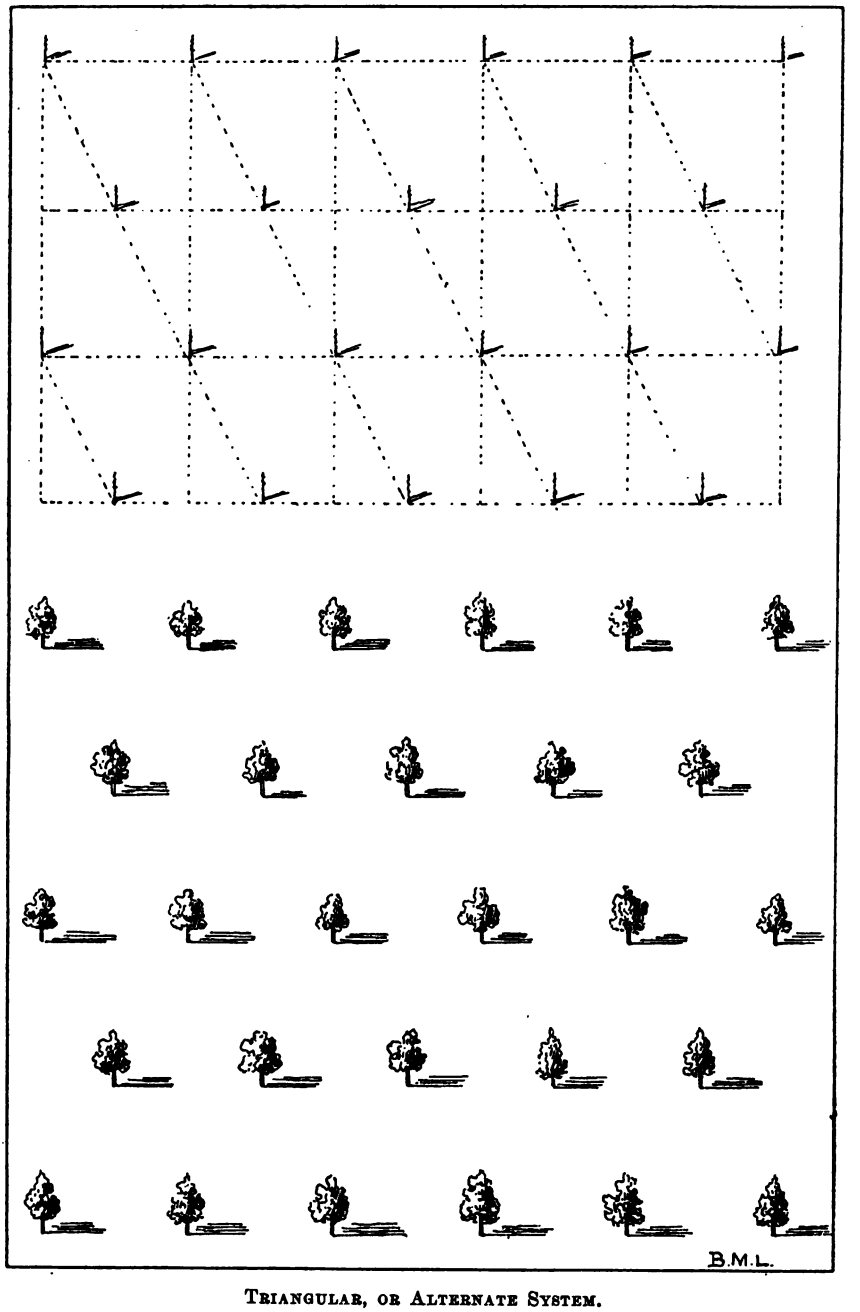
THE SQUARE SYSTEM.



QUINCUNX SYSTEM.



HEXAGONAL SYSTEM.



TRIANGULAR, OR ALTERNATE SYSTEM.

The following table will show the number of trees to the acre by the square, quincunx, and hexagonal or septuple systems:

	Square.	Hexagonal, or Septuple.	Quincunx.
10 feet	436	500	831
12 feet	303	347	571
14 feet	222	255	415
16 feet	170	195	313
18 feet	134	154	247
20 feet	109	126	199
22 feet	90	103	173
24 feet	76	86	137
30 feet	48	56	88

NOTE.—In giving the distances of trees of the quincunx, the fifth or central tree is not taken into account.

For any distances not given in the above data, calculate the number of trees to the acre by the square system, and add 15 per cent. This will give the number if planted septuple.

In the proper planting of trees a little admixture of brains is an absolute necessity, as it is in all branches of orchard work. Rules that would apply to one locality and under one set of conditions will fail in another. Some of the most successful orchardists advise the removal of the top dirt carefully, then the digging of a hole of liberal depth and the placing of the surface soil in the bottom; upon this the tree roots are to be set and the hole filled up with top dirt. Where there is a subsoil of cold, heavy clay this plan is admirable, but in warmer, sandy soils it is unnecessary. One of the most experienced prune growers in Santa Clara County advises the throwing out of a dead furrow after the land has been prepared, in which the trees are to be set at proper distances, and the soil thrown back on them with a plow and afterwards pressed closely around the roots.

The more careful method is the best, as it gives the young tree better root hold, and affords a larger area from which to derive its nourishment during its early period of growth.

The distance at which trees are planted in orchard row varies from eighteen to twenty-four feet, twenty feet being the favorite, and under most conditions probably the best distance. On very strong soil the greater distance would be better, as where more closely planted the limbs of the full-grown trees are liable to become intertwined, and to render cultivation and gathering unhandy. At a distance of twenty feet apart, planted by the square plan, there would be one hundred and nine trees to the acre, and by the hexagonal plan one hundred and twenty-six. After planting the young trees should be cut back to eighteen inches from the ground, and they should be protected during the first season from the heat of the sun by a shade on the south side. Three or four buds should be allowed to grow at the top, and the terminal buds of the lower branches should be pinched back after they have grown out a little, so that the buds will put out leaves and shade the stalk the first year.

VARIETIES.

The principal varieties are the California (the Petite Prune d'Agen), the Bulgarian, the Fellenberg, the German, the Hungarian and the Hungarian Date Prune, the Robe de Sergent, the Silver, and the Tragedy.

Of these the first named is by far the most popular, and forms the true shipping prune of California.

California, or P. d'Agen.

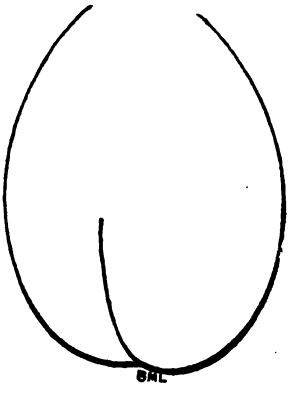


Fig. 1.

Branches of middling strength, bent at their very short internodes, of a deep brown on the shaded side, covered on the sunny side with a metallic whitish pellicle, smooth throughout their whole length. Wood buds small, conical, not very sharp, lying in a direction somewhat diverging from the branch, borne on the salient supports, whose sides extend out to some extent; scales of a deep maroon, the outer ones bordered with whitish gray; shoots flexuous, smooth throughout; leaves hardly of medium size, oval-elliptic, or sometimes obovate, ending abruptly in a short point, concave and often slightly wavy in their outline, bordered with teeth deeply cut and rounded, or rather deeply crenated, well supported on petioles of middling length and of middling strength, wine colored and very slightly downy; two small globular, yellow, pedicellate glands attached to the base of the limb of the leaf. Fruit buds medium size, ovoid, not very sharp, gathered on, rather short and rather thick. Flowers rather large, petals rounded, somewhat incised or emarginated at their extremity, divisions of the calyx short, rather large and spread out, pendicles rather long, strong, and smooth. General hue of the foliage a light green, stiffness of all the leaves, petioles of the leaves well spread out and diverging, are the striking characteristics of the tree. Fruit medium size, exactly ovoid, more tapering on the side of the stock than on the side of the pistillary point, around which it is very obtuse, with the cheeks a little more convex than the faces, one of which is transversed by a scarcely appreciable furrow, and the other by a continuation of the furrow deep enough to make the fruit appear as divided into two equal parts. Skin somewhat thick and firm, parting from the flesh, at first of a light purple, tinged with green; at maturity the purple

becomes very dark and covered with a thick and bluish bloom. Pistillary point of a golden yellow, attached very close to the surface of the fruit. Fruit stalk somewhat long, not very strong, of a light green, speckeled with brown on the side next the sun, inserted in a narrow and shallow cavity. Flesh yellow, fine, tender, rich in sugar juice, but whose aroma is not fine enough to constitute a toothsome fruit raw, but exceedingly good to dry. Pit small, almost exactly ellipsoid, flattened, emarginated at the end adjoining the stalk, rounded at the opposite extremity, with cheeks not very convex, slightly wrinkled, and most often separating from the flesh. Ventral suture widely but not deeply furrowed, with denticulated edges; dorsal ridge not very salient, only somewhat sharp toward the end attached to the stalk, accompanied with fine but well-marked grooves.

Robe de Sergent.

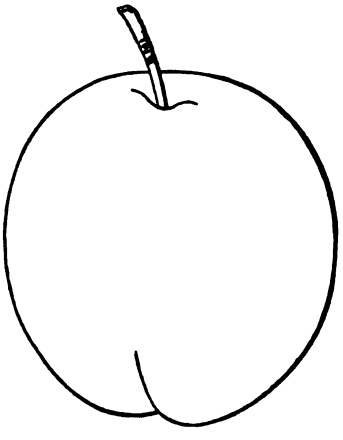


Fig. 2.

This prune has been classed under various types of prunes grown in several districts of France. Fruit medium size, oval; skin deep purple, approaching to black, and covered with a thick blue bloom; flesh greenish yellow, sweet, and well-flavored, sugary, rich, and delicious, slightly adhering to the stone; a valuable drying and preserving variety. The tree is quite an upright grower, and has a much broader leaf than the Prune d'Agen. A peculiarity of this prune is that it cannot be worked on any other but plum stock, except by double working. When budded on peach and almond it sooner or later severs from the stock. The striking characteristics of this tree are bright, shining, large leaves, lancet-shaped, growth strong, not tapering, violet brown underneath, with silvery skin pieces.

Silver.

Originated in Oregon; it is said to be a seedling of Coe's Golden Drop, which it much resembles. In the judgment of fruit experts, it is entitled to rank with the best drying plums and prunes, because of its large size, handsome appearance, and superior flavor.

Fruit large, oval; a little necked, with one side a little more swollen than the other. Skin light yellow, marked with numerous dark red

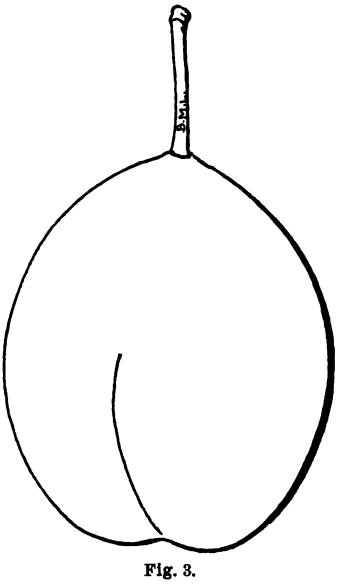


Fig. 3.

spots on the surface side. Flesh yellow, firm, adhering to the stone; sweet and rich flavor. Tree a rapid grower, but does not bear as young as other varieties.

Bulgarian.

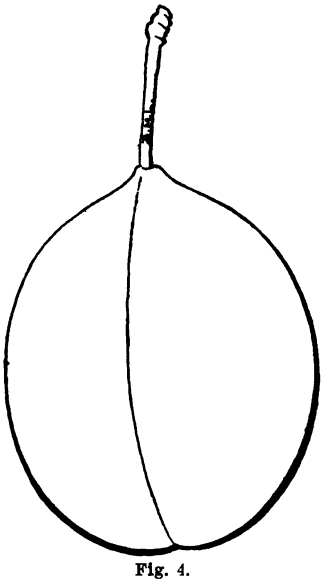


Fig. 4.

A variety cultivated in Alameda County, chiefly in the vicinity of Haywards. Fruit above medium size, dark purple, sweet and rich, with a pleasant acid flavor. Tree a vigorous grower, and an early, regular, and profuse bearer. The fruit is very tenacious, does not drop when mature; valuable for drying.

Brignole.

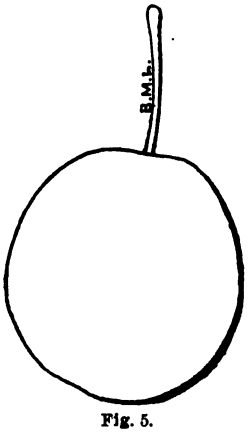


Fig. 5.

Fruit medium oblong; the skin is tough, tasteless, easily removed; color violet, with golden spots on the sunny side; covered with a whitish silver bloom, and spotted all over with light yellow dots; sometimes it is covered with marks and liver-spots. The meat is greenish yellow, varying to light yellow, tender, and finely grained, very juicy and sweet. The tree is a vigorous grower, and wants warm climate. The big limbs at the upper ends are very crooked; violet-brown color, underside greenish. The leaves are large, egg-shaped. A freestone.

Fellenberg.

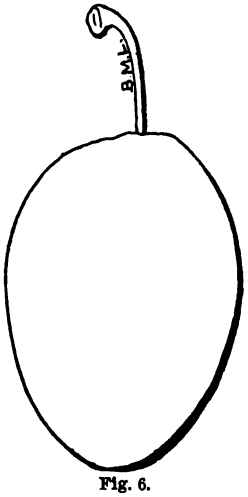


Fig. 6.

Oval, narrower towards the stem. The skin is thick and easily removed; color violet-brown, sometimes violet-blue. Little gray dots are very numerous. The bloom is light blue. The meat is of a beautiful yellow color, consistent. A freestone; very juicy, with a very agreeable sweet and slightly acid taste.

Wangenheim.

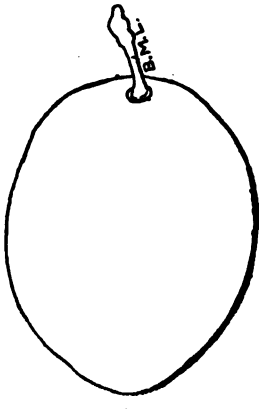


Fig. 7.

Fruit medium size, oval. Skin deep purple, covered with a thick, blue bloom. Flesh rather firm, greenish yellow, juicy, sugary, rich, separates from the stone. Ripens in August.

Hungarian.

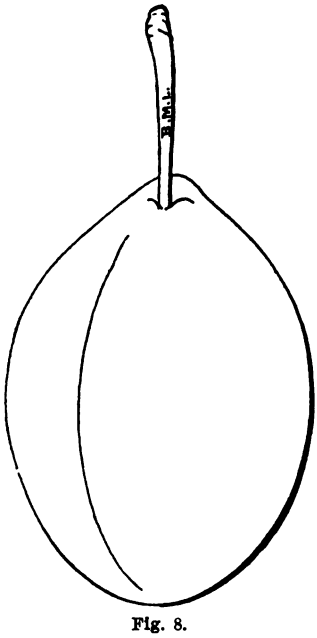


Fig. 8.

Very large, dark red, ovate, tapering towards the stock, inclined to double; juicy and sweet. Its large size, bright color, productiveness, and shipping qualities render it a profitable variety for home or distant markets. Tree a rapid grower and profuse bearer.

Tragedy.

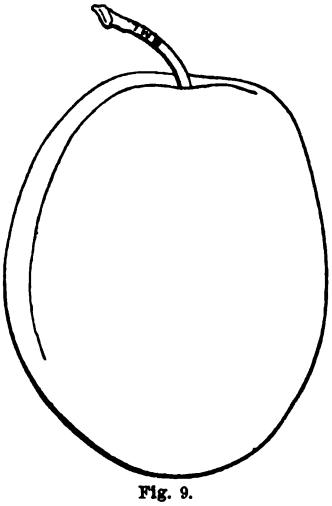


Fig. 9.

A new prune originated by O. R. Runyon, near Courtland, in Sacramento County. Seems to be a cross between the German and Purple Duane. Fruit quite large—nearly as large as the Purple Duane, looks much like it, only it is more elongated; skin dark purple; flesh yellowish green, very rich and sweet, being sweet from the time it commences to color; frees readily from the pit. Its early ripening (in June) makes it very valuable as a shipping fruit. One of the great points in favor of this prune is that the tree is scale-proof, being, in this respect, similar to the Black Tartarian cherry. The tree is a rapid grower and of beautiful form.

St. Martin.

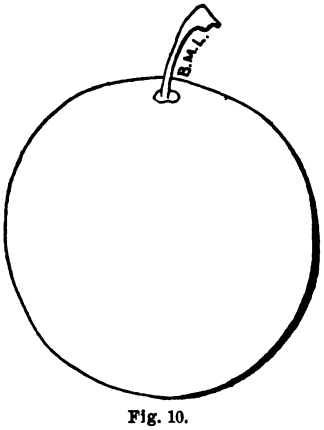


Fig. 10.

A late variety, hardy, and a good bearer; very blunt at the stem end. The skin is thick, tasteless, and can be drawn from the flesh; color yellow, varying to greenish, dotted with red spots. The meat is golden yellow, very sweet, and very agreeable to the taste. A clingstone.

German.

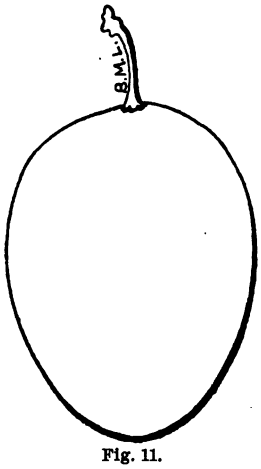


Fig. 11.

Fruit long, oval, and swollen on one side, a little narrower at the point. Skin fine, easily removed, turns dark brown on the sunny side. Bloom is light blue. The meat is greenish yellow, tender, quite sweet, losing its sweetness through an agreeable acid taste. Separates readily from the stone.

Hungarian Date.

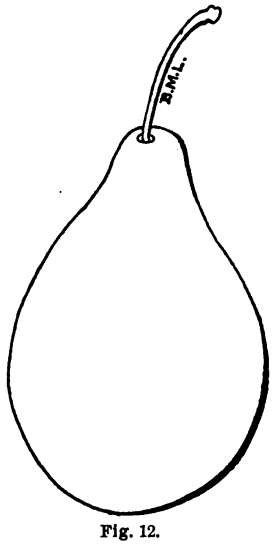


Fig. 12.

The fruit is large, long, rounding, at the stem very narrow. The fruit is thicker than wide; thickest in the middle. Skin is thick and tough, tasteless, and is easily removed; color dark violet-blue, with a reddish shine. On the sunny side there are many red dots and liver-spots. The meat is greenish yellow, coarse, shining, and of a juicy, sweet-wine taste. A freestone.

St. Catherine.

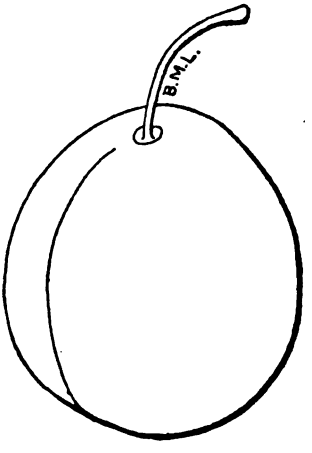


Fig. 13.

Medium size, narrowing considerably towards the stalk. Skin very pale yellow, overspread with thin white bloom. Flesh yellow, juicy, rather firm, and adheres partially to the stone; flavor sprightly, rich, and perfumed.

Golden.

Originated from seed of the Italian prune, somewhat larger than its parent, of light golden color, exquisite flavor, and good for drying. It is easily peeled and separates readily from the stone, which is quite small for the size of the fruit. The tree is a good grower, an abundant bearer, with heavy dark green foliage.

PROPAGATION OF THE PRUNE.

The first prunes were grafted on plum stock, but this has grown into disfavor on account of the tendency of plums to throw out suckers; and other stocks, the peach, the apricot, and lastly the Myrobalan plum, have come into use.

There is an intimate relation between soil and stock. For light sandy soil the peach stock is yet in great favor, and many growers prefer it over all others. Upon heavier soils it does not do so well as does the Myrobalan. For some time apricot stock was the favorite, but it has now fallen into total disuse. Experience has taught fruit growers a severe lesson. The prune makes a very poor union with the apricot, and when the tree gets to be large enough to catch the wind it invariably breaks off at the joint of the two stocks. In one instance a fruit grower lost one thousand trees in an orchard.

Those who have prunes grafted on apricot root can prevent their loss in the following manner. As the peach makes a good union with both the prune and the apricot, it can be used as an aid: The soil must be removed from the tree so as to get at the union of it. The peach cion must be cut in such a way as to be inserted above and below the union. It will form an arch with the trunk of the tree. On small trees two

such grafts will suffice, but on large trees at least four should be placed. These grafts will eventually thicken and form a complete trunk for the tree.

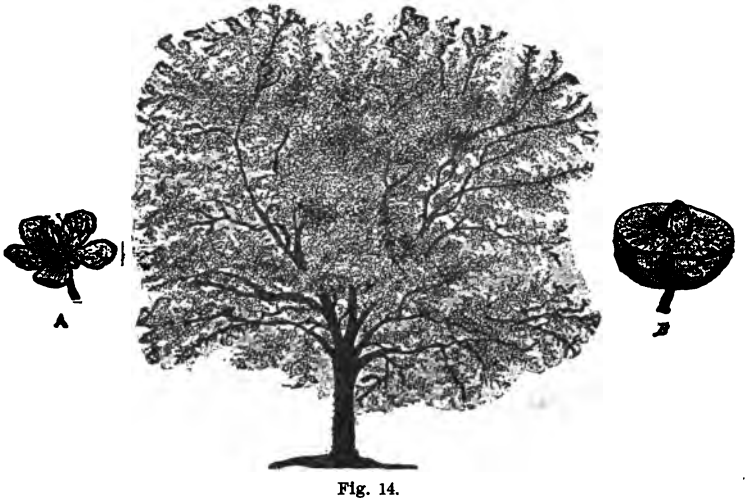


Fig. 14.

Myrobalan plum tree. *A*. The flower. *B*. The fruit.

The Myrobalan, or cherry plum (*Prunus myrobalana*), has of late come into great favor as a stock for the prune. It is claimed by some growers that the fruit on Myrobalan stock is smaller than on peach stock, but that its flesh is more solid and dries heavier. The influence of the root on the cured fruit is, however, still a mooted question.

The Myrobalan stock comes from France. It is a wild plum of great thriftiness, and is used very extensively in that country for budding stock of the prune. It grows readily from seed and cuttings, and is easily propagated. The seeds are generally sent to this coast in the middle of October, and then they are at once sprouted. There has been considerable discussion during the last few years as to what is the true Myrobalan, and it must be acknowledged that some of the refined distinctions which have been mooted do not seem to be well placed. Seedlings grown from the seed of the Myrobalan vary, as do other fruit seedlings, both in fruit and in foliage and habit of trees; and perhaps this fact has given rise to the distinction between "true" and "false" Myrobalan, so called. Practice has proceeded without much reference to the discussion, and whether grown here from seed of trees imported long ago, or from cuttings of the same, or whether seedling stocks are imported directly from France, as large quantities are, the Myrobalan of French origin is now the accepted plum stock for California. It has largely displaced the St. Julien and the Mirabelle, as well as the peach. Though described by some authorities as a dwarfing stock, it is found to be sufficiently free growing in California to suit all purposes, and to form a good foundation for full standard trees. Such prominence has been attained by the stock that we introduce an engraving of the typical Myrobalan tree. Its leaves are smaller and its shoots finer than the cherry plum tree, grown for its fruit in this State.

Whether Myrobalan shall be grown from seed or from cuttings is an

open question in California practice. Large quantities have been grown from cuttings, as is the French practice, according to Baltet. Other propagators hold, with W. H. Pepper, of Petaluma, that plum cuttings form a mass of fibrous roots at the lower end of the cutting, and when transplanted fail to send out strong supporting roots. As for the durability of trees grown from cuttings, there can easily be found old, thrifty orchards planted with such trees, though it must be acknowledged a better root system would be expected from a seedling, and there are instances in which trees from cuttings are held to be diseased in the root, while seedling roots are healthy. Possibly longer experience may yield a demonstration of the question.

Experience has shown that the Myrobalan stock thrives in this State both in low, moist, valley lands, in comparatively dry lands, and in stiff upland soils. Thus it has come to be accepted as an all-around stock for the prune.

It is urged against peach stock for damp, heavy soils, that it does not do well; that the sap sours and the fruit will not set well, while the root is subject to root knot, borers, and other pests that do not affect the Myrobalan stock on the heavier soils.

The prune is propagated by both budding and grafting. It is customary to bud the young stock first, as, if the bud does not take, it affords an opportunity to graft later in the season, thus giving the nurseryman two chances. The budding season extends from the middle of July to the end of August. The young trees are stripped of their leaves and twigs about six inches above the ground, at which place the bud is inserted. The grafting season is in January and February, at which time grafts are inserted in all the plants in which the buds have not taken. The grafting is done as near the surface of the soil as convenient, usually about two or three inches from the ground. The whole process of budding and grafting is described at length elsewhere in the present report, under the caption of "Propagation," and can be dismissed here without further notice.

CULTIVATION.

In the prune orchard, as in all others, careful cultivation pays. A double object is attained by keeping the surface well pulverized. First, the weeds, which draw heavily upon the vitality of the soil, which should be devoted to tree and fruit growth, are destroyed, and the fertilizing qualities which they would extract from the land are left for the benefit of the growing fruit. Second, it prevents the rapid evaporation of the moisture of the soil, the loose surface acting as a mulch, and on dry lands especially renders the need of irrigation less frequent. Further advantages are found in the neat appearance of the orchard, making it pleasing to the eye, and further, rendering its penetration easy both to teams and men. A neglected orchard, overrun with weeds, takes money out of the pocket of the owner.

It is customary to plow deeply in the early spring, usually as soon as the weeds are fairly started. The seeds of these are given a fair chance to germinate, in order that the plow may turn under and destroy as many as possible, rendering subsequent cultivation much easier. Near the tree rows, shallow plowing must be the rule, taking care to avoid injuring the roots as much as possible. After plowing, the land should be thoroughly harrowed and left in as good condition as it can be made.

After the spring plowing a cultivator, or weed cutter, should be run through the orchard from two to four times in the season as may be needed, to keep the weeds down and the surface loose. Particular pains should be taken in the last cultivation to leave the ground beneath the trees as fine and smooth as it can be made. Many growers work it fine with a rake, breaking carefully all lumps, smoothing down all hillocks or inequalities, and leaving a perfectly level and soft surface, upon which the ripened fruit can fall without injury. In foothill land it is usual after the harvest to plow a furrow on the low side of the row, which is left during the winter to catch the rainfall and prevent its escape to the lower lands. By this means the land gets the benefit of the entire winter precipitation, which is husbanded for summer use.

IRRIGATION.

The matter of irrigation is another thing that must be left to the individual orchardist, for it depends wholly upon the character of the soil upon which the orchard is growing. Some lands producing excellent prunes are so damp that drainage has to be resorted to in order to prevent the surplus water from drowning out the trees, while upon others, notably in the southern part of the State, where intense evaporation and dry land are the rule, irrigation must be frequent and thorough, and careful cultivation must follow each period of irrigation. In portions of the Santa Clara Valley, it is believed that at least twenty inches of rain are necessary to insure good crops, and winter irrigation is resorted to, the land being thoroughly soaked while the trees are in their dormant state, and no water is applied in the summer. Upon this question there is as great diversity of opinion as there is in regard to soil, and each grower must use his own best judgment, taking into consideration the characteristics of the land upon which his orchard is situated. In sections where irrigation is practiced for all orchard crops, the prune is treated the same as is the peach, the apricot, or the almond.

PRUNING.

The training of the young tree requires thought, care, and judgment. In the first three years of its life it is to assume the form which it is to retain during its whole existence. Here again, the individual judgment must be exercised, and conditions of soil, climate, and requirements must be considered. Two schools in regard to pruning have sprung up, each advocating a system diametrically opposed to the other, and each backing its opinions with plausible arguments—the one favoring high pruning, the other low; one heavy pruning, the other light. It is argued in favor of the high-cut tree that it is much easier to cultivate the orchard when a horse can be driven under the limbs, than when it is necessary to work under them with a hoe, as when they are trained low. The advocates of high pruning, in answer to the objections that high pruned trees in hot climates are liable to sun-burn, state that they may be planted closer together and thus afford shade for each other. In favor of low pruning, it is urged that the limbs bending beneath their weight of fruit will find support on the ground, that the trunks are protected from the sun, and that the fruit is easier to gather.

W. H. Aiken, of Wrights, gives the following rules for training the young tree:

"Cut back the trees after planting to eighteen inches from the ground, and shade on south side by some convenient shade. Three or four buds should be allowed to grow at the top, and the terminal buds of those below pinched back after they have grown out a little, so that the buds will put out leaves and shade the stalk the first year. The second year remove them and cut back the limbs to a foot in length; the third, two feet, etc., the object in view being to shape a handsome tree with strength and bearing space, which can be attained only by low training and intelligent pruning.

"After about six years of age, when in full bearing, the tree does not need cutting back as much as it does thinning out of cross limbs, if any, and pruning out unfruitful wood. The sprags or small twigs in body of the French prune tree should be cut back to one or two fruit buds, so that the fruit may be large. Some, however, advise the removal of all such sprags, as the fruit on them is small at the best.

"It is important in pruning to select buds on the upper side of limbs, as they will have a greater weight-bearing power than buds forming branches from under side of boughs. Summer pruning is not advisable. A full season's growth properly pruned back in the winter, and trained low so that the branches take a natural upward and oblique direction, will shape a tree that will be strong and broad enough to live long and be fruitful.

"My idea of pruning the prune tree is to make a handsome tree with plenty of limbs, and prune it back so that it will give the limbs great strength and bearing space. In that way you can raise a large amount of good plums or prunes. The tree should not be thinned out much unless the limbs cross, because when they begin to bear the tree opens very nicely. I have eight-year old French prune trees, and, though they didn't average it, many of them had eight hundred pounds of French prunes on this year, without much affecting the form or shape of the tree. They were so pruned and so strong, and with such a broad bearing space, that they bore that amount of prunes and very easily, although it has been a dry year, and they were not quite as large as they would have been if there had been a little more moisture. I think the great mistake in raising the prune is leaving too few limbs, say one limb up in the air, and the other one in another direction, like two arms. On such a tree you can raise very little fruit, and it would be of very little profit. I am of the opinion, too, that this pruning should go on each year and give a fine form and strength and bearing space, and when the tree bears and gets to be over six years old, and is in good bearing, you don't need so much pruning back. Indeed, I think when the tree is eight, or nine, or ten years old, it does not need much, if any, pruning back; of course, take out the old limbs to keep it in good form or shape."

Low training and little pruning after the fourth year have grown in favor of late, and are the systems which have the largest support among prune growers. The work of pruning should be commenced as soon as the sap stops flowing, which will depend upon the season, but as soon as the green leaves are gone, and no danger is to be apprehended from "bleeding," pruning may be advantageously begun.

YIELD.

The prune is a prolific bearer and can be relied upon for annual crops. Unlike many fruits, it does not take an occasional season's rest, but will yield its average returns every season. If properly cultivated some fruit may be gathered the third year, and the fourth year will yield a fairly profitable crop; the fifth year will give from fifty to sixty pounds to the tree, which the sixth year should double. From this time on the tree can be considered as in full bearing, and will give from one hundred and fifty to three hundred pounds of green fruit annually. The average yield for Santa Clara County is about three hundred pounds per tree. In some instances six hundred to eight hundred pounds to the tree are reported, and one six-year old tree in Visalia is credited with eleven hundred and two pounds of green fruit in one season.

PICKING AND CURING.

PROCESS OF GATHERING.

The prune is picked from the tree when fully ripe, which is indicated when it passes from light reddish to purple, and by the withering condition of the fruit. It is very important that the fruit be thoroughly ripe, or else when dried it will be devoid of that rich flavor so essential in a marketable fruit. In most sections the prune upon ripening has a tendency to drop to the ground, which fruit is gathered and processed with the rest of the crop. The picking of the fruit, simple as the process appears, is one of the most particular things in prune culture. Many of the leading growers go over their orchards eight or ten times, gathering the ripest fruit each time. People are kept continually at work in the season gathering the ripe fruit. Starting at one end of the orchard they will work it over, and by the time they have got through the part first gathered is ready for the second picking, and this is repeated until the entire crop is harvested. The object is to get the fruit in its prime condition—rich, full, meaty, and thoroughly ripe. If it dries a little on the tree and begins to shrivel it is none the worse. The fruit is usually allowed to drop on the ground, from whence it is gathered, and no greater assistance is given it in falling than the gentlest tap on the trunk of the tree; a severe shaking even is not allowed. At the last picking the fruit that remains on the tree is gathered with that which has fallen. By this method the fruit is assured of positive ripeness, is solid, and is charged with saccharine matter so desirable in the cured article. The prune will generally drop from the tree when fully ripe, and will not rot even if left on the ground under the trees for several days. As the fruit shows indications of ripening the ground under the trees is generally cleared of all rubbish and worthless fruit, so that when the mature fruit does fall it can be gathered by itself, free from rubbish. Sometimes a sheet is placed upon the ground under the tree and the ripe fruit is shaken into it, after which the sheet is picked up by the corners and the fruit turned into boxes and loaded on a wagon to be taken to the drying ground.

GRADING AND CURING.

Prunes are usually graded before drying, and various home-made contrivances are employed. Some use inclined planes of adjustable slats, the grader being thus available for other fruits than prunes; the large fruit rolls along into receptacles at the bottom, while the small fruit falls through into other receptacles. Other grading devices are made with wire screens, or riddles of different sizes of mesh. Some of them work on the principle of a fanning mill, three to four riddles placed above one another, each with a slight incline, and a spout on the side, where each grade drops into a box. Some have a long riddle, say twelve feet long, with three different sizes of wire screen on it. This riddle is hung upon four ropes, with an incline; the prunes are thrown

in at the higher end, and by shaking it they roll down and fall through the holes into boxes underneath. The first piece of screen should be small, to let only stems and dirt through, and no prunes. This long hanging screen is also used to grade prunes after drying.

The object to be attained by grading before drying is equality in drying. The smaller fruit dries more rapidly than the larger, and by grading it into two or three sizes, as it comes from the tree, greater uniformity in evaporation is secured, and a more even quality of finished fruit is the result. The grader also removes all twigs, leaves, or other foreign substances which may have become mixed with the fruit in picking.

The next process to which the fruit is subjected is known as dipping. This is one of the most important processes in the whole preparation of the prune for market, and much of the success of the pack will depend upon the person having it in charge. The ripeness of the fruit, the toughness of the skin, and other peculiarities of the fruit, have got to be considered in the preparation of the lye into which it is dipped, so that no certain rule can be laid down. The object to be attained is to remove the bloom, which fills up the pores, and at the same time crack the skin of the fruit so that evaporation may take place more rapidly. In its natural state the skin of the prune is almost impervious, and unless dipped the fruit would consume weeks if not months in drying. The usual strength of the dip is about one pound of concentrated lye to each ten gallons of water. The proper strength, however, must be left to the judgment of the operator, and the lye must be sufficiently strong to crack the skin of the prune. The lye must be kept boiling hot during the operation, and not allowed to cool by the immersion of the fruit. The length of time required for immersion also varies according to the toughness of the skin, the soil upon which the fruit is grown, and the age of the orchard, fruit from old orchards and heavy land being tougher than that from young orchards and freer soils. The average time required is about thirty seconds, but the fruit must be withdrawn as soon as the skin shows minute cracks on its surface. If left too long the sugar will ooze through the cracks in drying, rendering the fruit sticky and disagreeable to handle, and causing it to lose much of its best qualities; if it is removed too soon it will not dry well. After their removal from the lye bath the scalded prunes are next plunged into clean, fresh water, which rinses off all the lye that may have adhered to them in the first operation. This water must be changed frequently to prevent its becoming too heavily impregnated with lye. For dipping, the fruit is put into wire baskets or galvanized pails with perforated sides and bottoms. In the Buxton orchard, at Campbell, in Santa Clara County, a very ingenious device is used which does the work automatically. The prunes are taken direct from the orchard and unloaded into a bin. Elevators raise them to the grader, which removes all twigs, leaves, and rubbish, and assorts the fruit into two sizes. These two sizes each fall onto an endless apron, provided with carrying slats, and are carried through the lye baths, which are kept at a boiling pitch by steam pipes, a separate bath being provided for each sized fruit. The apron continues from the lye bath into the rinsing bath, which is kept fresh by a continuous stream of pure water which flows through it, and from the rinsing bath the fruit is delivered to the trays.

Drying is done wholly by the sun. A number of experiments with driers have been made, but the machines were found wholly inadequate to handle the crops, and sunshine was found so much superior that they have fallen into almost complete disuse, and are now used to so limited an extent as to require no consideration in connection with the prune industry. After the fruit comes from its second, or fresh-water dip, it is spread evenly on trays of a convenient size, usually about two by three feet, made of thin lumber and easy to handle, and these trays are placed on the drying ground, a space which has been carefully selected with a view to its full exposure to the sun. The drying season extends from the middle of August until the beginning of November. The length of time required for the complete desiccation of the fruit depends upon the weather, its heat, and the humidity of the atmosphere.

In hot, dry conditions the fruit requires a shorter exposure than where it is cool and moist. The drying period will vary under these circumstances from a week to a month, and the time at which to remove the fruit from the drying grounds must be left to the judgment of the operator. It should, however, be sufficiently well dried to warrant its keeping under all conditions, but not so dry as to rattle. When sufficiently dried the fruit is taken to the processing house, where it is put into bins to "sweat." This operation requires from two to three weeks, during which period the fruit must be carefully shoveled over several times and thoroughly intermixed. At the end of the sweating season it assumes a black, glossy appearance, and resumes somewhat of its original plumpness.

FINISHING.

The next process is that of "finishing." This comprises a second bath, to which the now dried fruit is subjected. This bath is simply boiling water, to which is added such ingredients as the judgment or the whim of the individual grower may fancy will improve the appearance or quality of his fruit. The objects to be attained in the second dipping are to destroy whatever insect germs may have become attached in drying, and to soften the skin. The fruit should be left in the bath until partially cooked and these ends are accomplished. Some growers add sufficient salt to the dip to make a fairly strong brine, and this has the advantage of increasing the heat of the water several degrees beyond that to which fresh water can be heated, and making its effect surer. Others add a small quantity of glycerine, glucose, fruit juices, and some few logwood or indigo. This is done for the purpose of improving the appearance of the fruit and adding to its gloss and color. Many of the most experienced packers decry the addition of any of the last named articles, claiming that they are ineffective and do not add either to the quality or appearance of the fruit. In about three hours the fruit will be sufficiently dry for packing.

Before passing the finishing process the fruit is once more run through the grader and assorted into standard sizes for the market. There are usually six sizes: first, those ranging from forty to fifty to the pound; second, fifty to sixty; third, sixty to seventy; fourth, seventy to eighty; fifth, eighty to ninety, and sixth, all below ninety.

PACKING.

The final operation in the handling of the prune is packing, and here again great judgment is required in putting up a thoroughly good article, that will present an attractive appearance and force its way on the market. Great care must be exercised that no fruit be packed until all surplus moisture between the fruit has entirely disappeared, for if packed while damp the fruit will mold in the packages; at the same time all fruit that is overdried must be thrown out. The skillful packer can tell by the sense of touch just what fruit is fit for packing, and that which is not, as he runs his fingers over the piles before him. Much of the fruit is packed in boxes of ten, twenty-five, and fifty pounds each, but of late there is a growing demand for fruit in sacks, and large quantities are now shipped East in hundred-pound sacks, where it is either boxed by the Eastern dealer or sold direct from the sacks to the consumer.

PRUNES IN EUROPE—PRODUCTION AND MARKETS.

THE FRENCH METHOD.

George W. Roosevelt, United States Consul at Bordeaux, gives the following account of the French method of preparing the prune for market:

"When the prune is ripe it is covered with a sort of glaucous powder, called flower, which greatly adds to its value as a table fruit. As the gathering is an important factor in the subsequent value of the prune, great care and good management are indispensable. The fruit is usually gathered after the heat of the day has dissipated the humidity of the night. When possible, straw is carefully spread beneath the trees to prevent the fruit coming in contact with the earth. The prevailing custom, however, is to harrow the ground before gathering the plums. Only such fruit as readily falls when the tree is slightly shaken is gathered. As soon as harvested the fruit is taken to a building, properly called the fruitery, where it remains for a few days to complete maturity. Prunes are subjected to not less than three, and frequently to four, distinct cookigns before being pronounced ready for market. Each of these operations has a special end, in sight of which great care is demanded. The first two preliminary cookings have for object evaporation of water contained in the fruit, and preparation for the final cooking, which dries the fruit and imparts a certain brilliancy much sought after by buyers. Sun-dried prunes are most delicious in taste, but the exigencies of the trade do not permit of such long preparation. In several districts of France most primitive means are practiced in curing the fruit for market. In Provence the freshly gathered fruit is plunged into pots of boiling water, where it remains until the water again arrives at a boiling point. It is then removed from the boilers, placed in baskets, and gently shaken until cool, when it is put upon long trays and exposed to the heat of the sun to complete desiccation. At Digne the prunes are not gathered until completely matured. Women peel the fruit with their nails to avoid injury to the soft pulp. The fruit is strung upon small twigs, and in such fashion as not to touch. These sticks of prunes are stuck into straw frames, which are suspended in the sun, until the prunes easily detach from the stick; the pit is then removed, the fruit placed upon trays, exposed to the sun, and when thoroughly desiccated packed for market.

"In the departments of Indes-et-Loire and Lot-et-Garonne immense ovens purposely constructed for prune cooking are used, but the proprietors often suffer loss from want of more commodious cooking apparatus, especially in windy or stormy weather, when the fruit falls in an embarrassing abundance, and he finds himself without means of immediately curing or preserving it. Most prunes are subjected to a preliminary washing to free them from dust or sand that may have adhered to them in falling to the ground. After washing, the fruit is exposed to the sun or air on beds of straw, or the trays upon which it is to be cooked, to rid it of all humidity. When dry it is spread in a single layer on the

tray and at once submitted to the oven. The trays used in rural districts are quaint affairs, varying in form, dimensions, and construction, according to locality. They are made during the winter months by peasants, are clumsy and cumbersome, and the only excuse for their use is that the peasant cannot afford to buy, and is not skillful enough to make better ones. They are very primitive in their construction, consisting of a frame made of hoop, to which is fastened a wicker-like bottom fashioned from rushes or willow twigs. They hold from twelve to eighteen pounds of green fruit, representing about four or six pounds of prunes. Care is exercised in preparing the oven for the first cooking that the degree of heat shall not exceed 50 degrees Centigrade, and in the second not over 70 degrees. If the heat is too strong an ebullition is produced in the fruit, the skin bursts, the juice discharges, the prune becomes sticky, loses its flavor, and consequently its commercial value. After each cooking, which occupies about six hours, the fruit is removed from the oven and exposed to the air. When the prunes are cold they are carefully turned by women specially charged with this duty. They avoid disturbing the fruit while it is warm, as the touch renders it glutinous, and prevents the juice from congealing. The third cooking is performed at a temperature of 80 to 90 degrees, and occasionally at 100 degrees. This, like the two preceding, should be conducted under most intelligent care. After the third cooking the prunes are sorted, and such as are found imperfectly cooked are again submitted to the oven. The degree of perfection in cooking is obtained when the fruit presents a dark purple color, solid and brilliant surface, malleable and elastic to the touch, and when the kernel is well done and intact in the shell. When these conditions are not obtained the kernel ferments, and alters the entire prune, which very soon molds and becomes worthless. Each cooking should not consume more than six hours. In the last, however, the process is sometimes prolonged, depending upon the condition of the fruit. The fruit loses about 70 per cent of its original weight. The dark color depends largely upon the degree of maturity at time of gathering. The brilliancy of surface has no other commercial value than proving the cleanliness observed in preparation and attracting the attention of buyers. Besides the different usages of the prune as an aliment, it is also employed in producing an agreeable brandy.

"Prunes are divided into ten categories, taking the number of prunes necessary to a pound as a basis, and were formerly classified as follows: (1) Trash or refuse, more than 125 to the pound; (2) small prunes, 120 to 125 to the pound; (3) small ordinary, 110 to 115 to the pound; (4) fine ordinary, 100 to 105 to the pound; (5) superior ordinary, second, 90 to 95 to the pound; (6) superior ordinary, for exportation, or half choice in France, 80 to 85 to the pound; (7) first choice, 70 to 75 to the pound; (8) extra choice, 60 to 65 to the pound; (9) imperial, 50 to 55 to the pound; (10) imperial flower, 40 to 45 to the pound.

"This classification offered opportunities to sell inferior prunes for those of good quality, and to prevent this abuse was changed and simplified as follows: No. 1 represents 90 to 92 to the pound; No. 2 represents 80 to 82 to the pound; No. 3 represents 70 to 72 to the pound; No. 4 represents 60 to 62 to the pound; No. 5 represents 55 to 56 to the pound; No. 6 represents 44 to 45 to the pound; No. 7 represents 40 to 41 to the pound; No. 8 represents 34 to 35 to the pound; No. 9 represents 30 to 31 to the pound.

"When ready for exportation the fruit is pressed flat between two cylinders covered with rubber, and then packed into cases by a special machine called a packer. Many dealers still perform this operation in the primitive manner of foot pressure, which is simple, speedy, and equally as satisfactory. Bordeaux is the principal center of this particular commerce, which is yearly increasing. Besides the large amount of prunes exported to European countries by way of rail, there are about one hundred vessels annually leaving this port loaded with this valuable and succulent product. The most important exportation of this production is to the United States. During the past eight years $4,553,000 worth of prunes, or an average of $569,125, have been invoiced through this consulate, as will be seen by the following:

1880	$219,736 68
1881	525,052 58
1882	369,150 64
1883	661,166 69
1884	577,480 58
1885	792,640 96
1886	840,299 19
1887	568,356 82
Total	$4,553,884 14

"In the beginning of the prune industry many devices were employed for their proper conservation. The first ovens were very primitive, and the work of preparing the fruit for market laborious. At present there are many different kinds of ovens in use, possessing more or less distinct features, but about the same in general principles. The most generally used are the Bournel and the Marletean ovens. The only ovens in use are of French patent and make."

PRODUCTION AND MARKETS.

The principal markets for California prunes are Chicago and New York, by far the greater portion being shipped to Chicago. Some smaller shipments are also sent to Philadelphia and Pittsburg. From these central points the product finds its way to the retailers, and thence to the consumers of the country. Although but a comparatively new aspirant for public favor, the California prune has forced its way in advance of the imported article, and brings from 2 to 2½ cents per pound more than the French prune sold in competition with it. The proportion of pit and skin to meat in the California fruit is much less than in that of the French article, while the proportion of saccharine matter is much greater. These features give our domestic fruit its great advantage over the imported article. This popularity should be no surprise, as the California French prune is a different article from the imported French prune. Our prunes, as every consumer knows, are more like dates, and when cooked are of a most delicious flavor. Besides this, dealers have found out that the California prune keeps better and longer without sugaring than the imported goods.

The prune crop of 1889 was variously estimated at from fifteen million to eighteen million pounds, and it was sold at fair prices, ranging from 5 to 9 cents per pound, the average in the market being 2 cents higher than the imported. The crop of 1890 was expected to fall short, owing to excessive rain upon the bloom, and the excessive moisture in the

soil, which caused much of the fruit to drop after having attained a fair size. At the end of the season it was apparent that the output was but very little, if at all, less than the preceding year. Prices for green fruit delivered at the driers ranged from $21 to $30 per ton.

The amount of prunes now consumed in the United States is enormous, but the consumption is capable of great enlargement as the superior quality of the Pacific Coast product becomes better known. It will be years before the demand on this side of the Atlantic can be supplied, and when that shall have occurred there will be the market of Europe and the rest of the world to supply. The immense area devoted to prune culture this season (1891) testifies to the profound confidence felt in the future of the industry by the people of California, and that confidence certainly appears well founded.

The following table gives the foreign import and California production for the six years from 1885 to 1891, inclusive:

Year.	Foreign Imports, by Years, Ending June 30.		California production, by Years, ending December 31— Pounds.
	Pounds.	Value.	
1885	57,631,820	$2,147,505 00	----------
1886	64,995,545	2,026,595 00	2,000,000
1887	92,032,625	2,999,648 00	1,825,000
1888	70,626,027	2,197,150 00	2,100,000
1889	46,154,825	1,423,304 00	15,200,000
1890	58,093,410	1,789,176 00	12,200,000
1891	34,281,322	2,054,486 00	27,000,000

Professor Allen, of San José, speaking of the rapid growth of the prune industry, says:

"The first shipment of prunes was made in 1867, by J. Q. A. Ballou, one of the oldest orchardists in the valley, and was consigned to A. Lusk & Co., of San Francisco; there were about 500 pounds of dried French prunes in the consignment. This was the first shipment of prunes from the valley, and comprised the entire crop. During the fall of 1891 there have been shipped from San José, alone, 19,207,165 pounds. There are at least 2,000,000 pounds more awaiting shipment.

"Mr. Ballou raised his fruit from about fifteen trees, at which time there were not more than one hundred trees in bearing in the valley. Now there are not less than one million, one half of which are in bearing."

The importation of prunes into the United States for the year 1890, to December 31, was 61,905,782 pounds, valued at $2,819,420, an increase over the importations of 1889 of 18,188,429 pounds, and an increased value of $584,029. The product of the State of California for the same period is given for 1889 at 15,200,000, and 1890 at 12,200,000, or 28,517,353 pounds less than were imported in 1889, and 48,705,782 pounds less than were imported in 1890. It would appear that while the United States imports from three to four times the quantity of prunes produced by California, there is still a large field for our domestic fruit, and that, with our continually increasing population, the danger of oversupply is still very remote, and prune growing in California may be relied upon as a profitable industry for years, if not for generations yet to come.

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